

Response
Serial No. 09/893,677
Attorney Docket No. 010680

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

LISTING OF THE CLAIMS:

Claim 1 (Currently Amended): A rigid video-endoscope system including a front-end insertion section and a camera head, said rigid endoscope system comprising:

an objective optical system that forms an image of an object, a relay optical system that includes a plurality of lens units and relays the image formed by the objective optical system, an imaging optical system that forms an image of the relayed image and a solid-state image sensor that receives the image formed by the imaging optical system, and

wherein said camera head includes a part of said relay optical system, said imaging optical system and said solid-stage image sensor, and

the relayed image is formed between the relay optical system and the imaging optical system in the camera head, and

~~wherein the relayed image is in the camera head and a field mask is disposed at or near the position of the relayed image, and~~

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wherein said front-end insertion section includes the objective optical system,
a remaining part of the relay optical system, the imaging optical system and the solid-
state image sensor; and

the insertion section and camera head are detachable.

Claim 2 (Currently Amended): A rigid-endoscope as defined in claim 1, wherein said camera head including a view field mask, wherein said view field mask, said imaging optical system and said solid-state ~~imaging~~ image sensor are constructed to be integrally moved along the optical axis in ~~an~~ a focusing operation.

Claim 3 (Currently Amended): A rigid video-endoscope as defined in claim 2, further comprising a mask adjusting device for adjusting the position of said view field mask vertically with respect to an optical axis to allow said view field mask to be focused into an image on the center of said solid-state ~~imaging~~ image sensor without decentering from said center when said view field mask is focused into an image on said solid-state image sensor through said imaging optical system.

Claim 4 (Currently Amended): A rigid video-endoscope as defined in claim 2, further comprising a solid-state image sensor adjusting device for adjusting the position of said solid-state image sensor vertically with respect to an optical axis to allow said view field mask to be

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focused into an image on the center of said solid-state ~~imaging~~ image sensor without decentering from said center when said view field mask is focused into an image on said solid-state image sensor through said imaging optical system.

Claim 5 (Original): A rigid video-endoscope as defined in claim 2, wherein said imaging optical system includes at least a cemented lens having positive power, two positive lenses and a single negative lens.

Claim 6 (Currently Amended): A rigid video-endoscope as defined in claim 1, wherein said camera head including a view field mask, wherein said part of said relay optical system is constructed to be moved along the optical axis in ~~an~~ a focusing operation.

Claim 7 (Original): A rigid video-endoscope a defined in claim 6, further comprising a mask adjusting device for adjusting the position of said view field mask vertically with respect to an optical axis to allow said view field mask to be focused into an image on the center of said solid-state image sensor without decentering from said center when said view field mask is focused into an image on said solid-state image sensor through said imaging optical system.

Claim 8 (Original): A rigid video-endoscope as defined in claim 6, further comprising a solid-state image sensor adjusting device for adjusting the position of said solid-state image

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sensor vertically with respect to an optical axis to allow said view field mask to be focused into an image on the center of said solid-state image sensor without decentering from said center when said view field mask is focused into an image on said solid-state image sensor through said imaging optical system.

Claim 9 (Original): A rigid video-endoscope as defined in claim 6, wherein said imaging optical system includes at least a cemented lens having positive power, two positive lenses and a single negative lens.

Claim 10 (Currently Amended): A rigid video-endoscope as defined in claim 1, wherein said camera head including a view field mask, and said imaging optical system including a front lens group and a rear lens group, wherein said view field mask and said front lens ~~groups~~ group are constructed to be integrally moved along the optical axis in ~~an~~ a focusing operation.

Claim 11 (Original): A rigid video-endoscope system as defined in claim 10, wherein said view field mask is located substantially at the front focal point of said front lens group.

Claim 12 (Currently Amended): A rigid video-endoscope as defined in claim 10, which includes a mask adjusting device for adjusting the position of said view field mask vertically with respect to an optical axis to allow said view field mask to be focused into an image on the center

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of said solid-state image sensor without decentering from said center when said view field mask is focused into an image on said solid-state image sensor through said imaging optical system.

Claim 13 (Currently Amended): A rigid video-endoscope as defined in claim 10, which includes a solid-state ~~imaging~~ image sensor adjusting device for adjusting the position of said solid-state image sensor vertically with respect to an optical axis to allow said view field mask to be focused into an image on the center of said solid-state image sensor without decentering from said center when said view field mask is focused into an image on said solid-state image sensor through said imaging optical system.

Claim 14 (Original): A rigid video-endoscope as defined in claim 10, wherein said imaging optical system includes at least a cemented lens having positive power, two positive lenses and a single negative lens.

Claim 15 (Original): A rigid video-endoscope system as defined in claim 1, wherein said front-end insertion section has an outer diameter of $\Phi 6$ or less.

Claim 16 (Original): A rigid video-endoscope system as defined in claim 1, wherein said front-end is rotatable with respect to said camera head.

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Claim 17 (Original): A rigid video-endoscope system as defined in claim 1, wherein a plurality of said front-end insertion sections are selectively replaceable to said camera head.

Claim 18 (Original): A rigid video-endoscope system as defined in claim 1, wherein light beam is substantially parallelized between said front-end insertion section and said camera head.

Claim 19 (Previously Presented): A rigid video-endoscope system as defined in claim 1, wherein the front-end insertion section includes the objective optical system and a part of the relay optical system, and

said camera head includes the remaining a part of said relay optical system, said imaging optical system and said solid-state imaging sensor.